

Relay Terminal Block (screwless type)

■ Features

[Common Feature]

- Selectable between independent and load common output with jumper bar
- High tensile force and easy wiring with one-touch screwless type crimp terminal
- Convenient operating status check with operation indicator (blue LED)

[1-point]

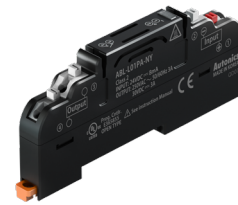
- Rated load voltage: 3A
- Selectable between independent and power common input with jumper bar
- DIN Rail mounting
- Relay: [Fujitsu] NYP24W-K / [Panasonic] APAN3124

[4-point]

- Rated load voltage: 5A
- Selectable between NPN (+ COM) and PNP (- COM) input with jumper bar
- Relay protection with the cover
- Easy relay replacement with relay ejector or removal lever
- DIN Rail or screw mounting
- Relay: [Fujitsu] NYP24W-K / [Panasonic] APAN3124, PQ1a-24V / [Omron] G6B-1174P-FD-US

[16-point]

- Rated load voltage: 3A
- Relay protection with the cover
- Easy relay replacement with relay ejector
- DIN Rail or screw mounting
- Relay: [Omron] G6B-1174P-FD-US



⚠ Please read "Safety considerations" in instruction manual before using.

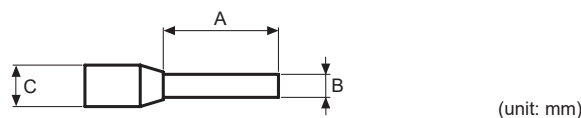


■ Ordering Information

AB L - L 04 PQ - U N

Item	Terminal block	L	Screwless
		H	Hirose connector
	Relay type	TN	TAKAMISAWA(Fujitsu) NYP
		PA	MATSUSHITA(Panasonic) PA
		PQ	MATSUSHITA (Panasonic) PQ
	No. of relay points	01	1
		04	4
		16	16
	Controller	L	Screwless
		H	Hirose connector
Varistor installation	N	Not installed	
	Y	Installed	
Input logic	U	Universal	
	N	NPN	
	P	PNP	
Relay terminal block	L	Screwless	
	AB	Relay terminal block	



■ Crimp Terminal Specifications





	A	B	C	Applicable wire
End Sleeve (ferrule terminal) crimp terminal	10 to 12.0	≤ 2.0	≤ 4.1	AWG22-16 (0.30 to 1.25mm ²) (60°C only)

Specifications

Rated load current 5A

Model	ABL-L04PQ-UN	ABL-L04PQ-UY ^{※1}	ABL-L04R6-UN	ABL-L04R6-UY ^{※1}
Power supply	24VDC \pm 10%			
Rated load voltage¤t ^{※2}	250VAC \sim 50/60Hz 5A, 30VDC \pm 5A			
Current consumption ^{※3}	\leq 20mA			
Output type	1a contact relay output			
Applied relay	PQ1a-24V [MATSUSHITA (Panasonic)]		G6B-1174P-FD-US [OMRON]	
No. of relay points	4-point			
Terminal type	Screwless			
Terminal pitch	10.2mm			
Indicator	Operation indicator: blue LED			
Applied cable	Solid wire	\varnothing 0.6 to \varnothing 1.25mm (60°C only)		
	Stranded wire ^{※4}	AWG22-16 (0.3 to 1.25mm ²) (60°C only)		
Stripped wire length	8 to 10mm			
Insulation resistance	\geq 1,000M Ω (at 500VDC megger)			
Insulation resistance	between coil-contacts	4,000VAC 50/60Hz for 1 minute		3,000VAC 50/60Hz for 1 minute
	Between same contacts ^{※5}	1,000VAC 50/60Hz for 1 minute		1,000VAC 50/60Hz for 1 minute
Vibration	Mechanical	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours		
	Malfunction	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes		
Shock	Mechanical	1,000m/s ² (approx. 100G) in each X, Y, Z direction for 3 times		
	Malfunction	100m/s ² (approx. 10G) in each X, Y, Z direction for 3 times		
Environment	Ambient temp.	-15 to 55°C, storage: -25 to 65°C		
	Ambient humi.	35 to 85%RH, storage: 35 to 85%RH		
Material	Terminal block: polyamide 66, conducting plate: brass, case&base: modified polyphenylene oxide			
Accessory	Jumper bar: 1			
Protection structure	IP20 (IEC standard)			
Approval	 			
Weight ^{※6}	Approx. 148g (approx. 92g)	Approx. 150g (approx. 94g)	Approx. 143g (approx. 87g)	Approx. 144g (approx. 88g)

Rated load current 3A

Model	ABL-L01PA-NN ABL-L01PA-NY ^{※1} ABL-L01PA-PN ABL-L01PA-PY ^{※1}	ABL-L01TN-NN ABL-L01TN-NY ^{※1} ABL-L01TN-PN ABL-L01TN-PY ^{※1}	ABL-L04PA-UN ABL-L04PA-UY	ABL-L04TN-UN ABL-L04TN-UY	ABL-H16R6-NN ABL-H16R6-PN
Power supply	24VDC \pm 10%				
Rated load voltage¤t ^{※2}	250VAC \sim 50/60Hz 3A, 30VDC \pm 3A				
Current consumption ^{※3}	\leq 8mA				\leq 20mA
Output type	1a contact relay output				
Applied relay	APAN3124 [MATSUSHITA(Panasonic)]	NYP24W-K [TAKAMISAWA(Fujitsu)]	APAN3124 [MATSUSHITA(Panasonic)]	NYP24W-K [TAKAMISAWA(Fujitsu)]	G6B-1174P-FD-US [OMRON]
No. of relay points	1-point		4-point		16-point
Terminal type	Screwless				
Terminal pitch	9.0mm (arranging over 2 units)		5.0mm		\geq 7.8mm
Indicator	Operation indicator: blue LED		Operation indicator: blue LED		Power indicator: red LED, operation indicator: blue LED
Applied cable	Solid wire	\varnothing 0.6 \sim \varnothing 1.25mm (60°C only)			
	Stranded wire ^{※4}	AWG22-16 (0.3 \sim 1.25mm ²) (60°C only)			
Stripped wire length	8 to 10mm				
Insulation resistance	\geq 1,000M Ω (at 500VDC megger)				
Dielectric strength	Between coil-contact	3,000VAC 50/60Hz for 1 minute			
	Between same contacts	1,000VAC 50/60Hz for 1 minute	750VAC 50/60Hz for 1 minute	1,000VAC 50/60Hz for 1 minute	750VAC 50/60Hz for 1 minute
Vibration	Mechanical	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 2 hours			
	Malfunction	1.5mm amplitude at frequency of 10 to 55Hz (for 1 min) in each X, Y, Z direction for 10 minutes			
Shock	Mechanical	1000m/s ² (approx. 100G) in each X, Y, Z direction for 3 times			
	Malfunction	100m/s ² (approx. 10G) in each X, Y, Z direction for 3 times			
Environment	Ambient temp.	-15 to 55°C, storage: -25 to 65°C			
	Ambient humi.	35 to 85%RH, storage: 35 to 85%RH			
Material	Terminal block: polyamide 66, conducting plate: brass, case&base: poly phenylene sulfide		Terminal block: polyamide 66, conducting plate: brass, case&base: poly phenylene sulfide		Terminal block, cover: polycarbonate / CASE&BASE: modified polyphenylene oxide
Accessory	—		Jumper bar: 1		Jumper bar: 2
Protection structure	IP20 (IEC standard)				
Approval	 				
Weight ^{※6}	Approx. 138g (approx. 21g)	Approx. 135g (approx. 21g)	Approx. 125g (approx. 72g)	Approx. 128g (approx. 75g)	Approx. 446g (approx. 348g)

※1: This is for load protection and it is recommend to use at the inductive load.

※2: Relay load capacity for resistive load.

Please connect to a load using the same power supply. Connecting to a load from a different power supply may cause safety issues.

※3: The current consumption including LED current by one relay.

※4: When using stranded wire, use End Sleeve (ferrule terminal) crimp terminals.

※5: In case of ABL-L04 □ - □ Y (varistor installed type), this is 300VAC.

※6: The weight includes packaging. The weight in parenthesis is for unit only.

※Environment resistance is rated at no freezing or condensation.

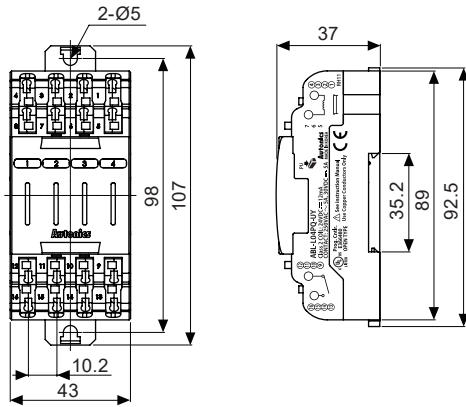
ABL Series

Dimensions

(unit: mm)

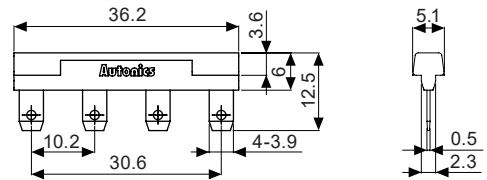
○ Rated load current 5A

● ABL-L04PQ/R6-□



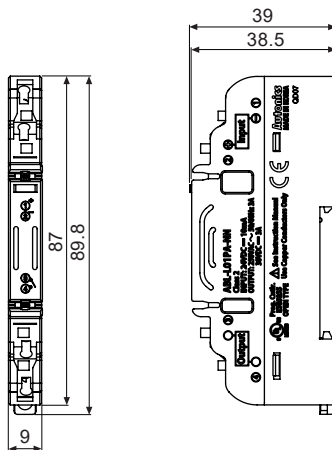
● Jumper bar (model: JB-10.2-04L)

※For the desired application (power/load common), jumper bar is sold separately.



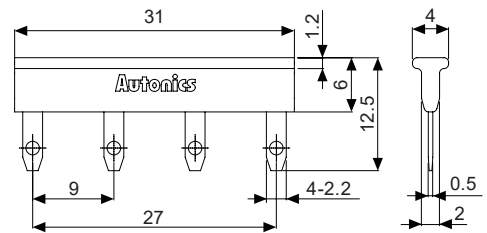
○ Rated load current 3A

● ABL-L01TN/PA-□

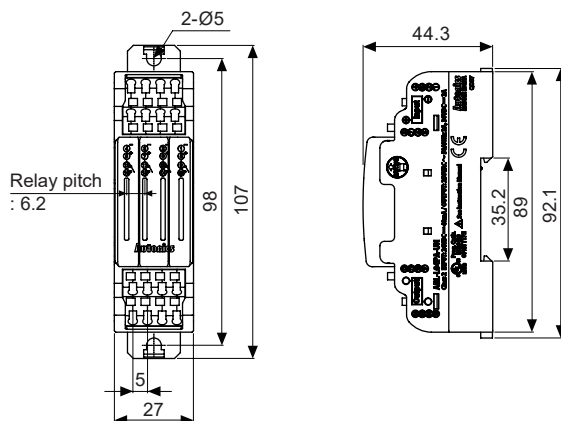


● Jumper bar (model: JB-9.0-04L)

※For the desired application (power/load common), jumper bar is sold separately.

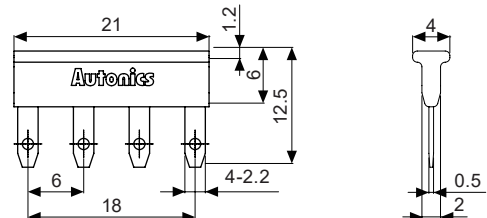


● ABL-L04TN/PA-□



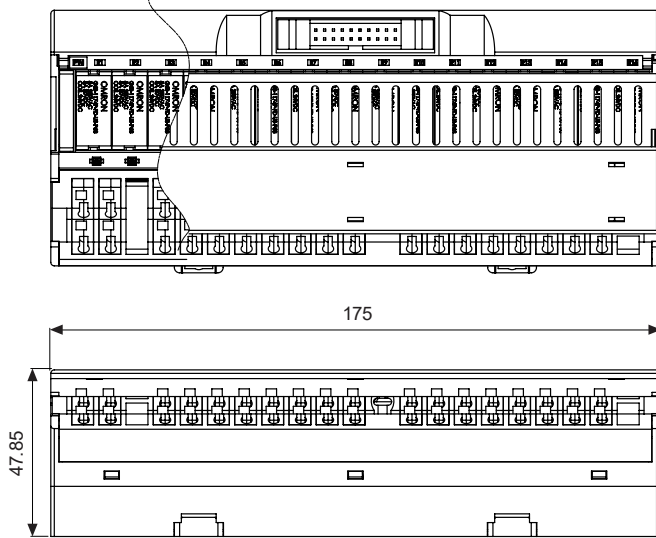
● Jumper bar (model: JB-6.0-04L)

※For the desired application (power/load common), jumper bar is sold separately.



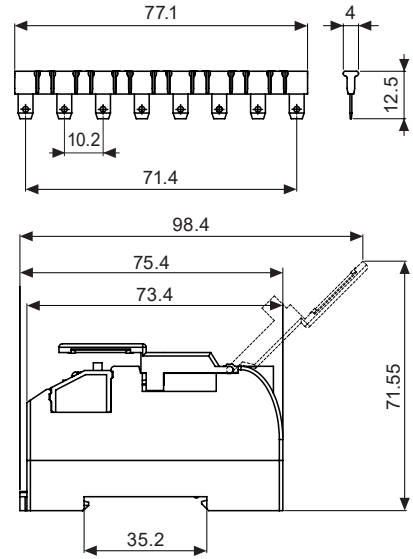
Relay Terminal Blocks

● ABL-H16R6-NN/PN



● Jumper bar (model: JB-10.2-08L)

※For the desired application (load common), jumper bar is sold separately.



I/O Terminal Blocks

Interface Terminal Blocks
Common Terminal Blocks
Sensor Connector Terminal Blocks

Relay Terminal Blocks

I/O Cables

Connector Type Cables
Open Type Cables

Others

ABS Series

ABL Series

ASL Series

Power Relay

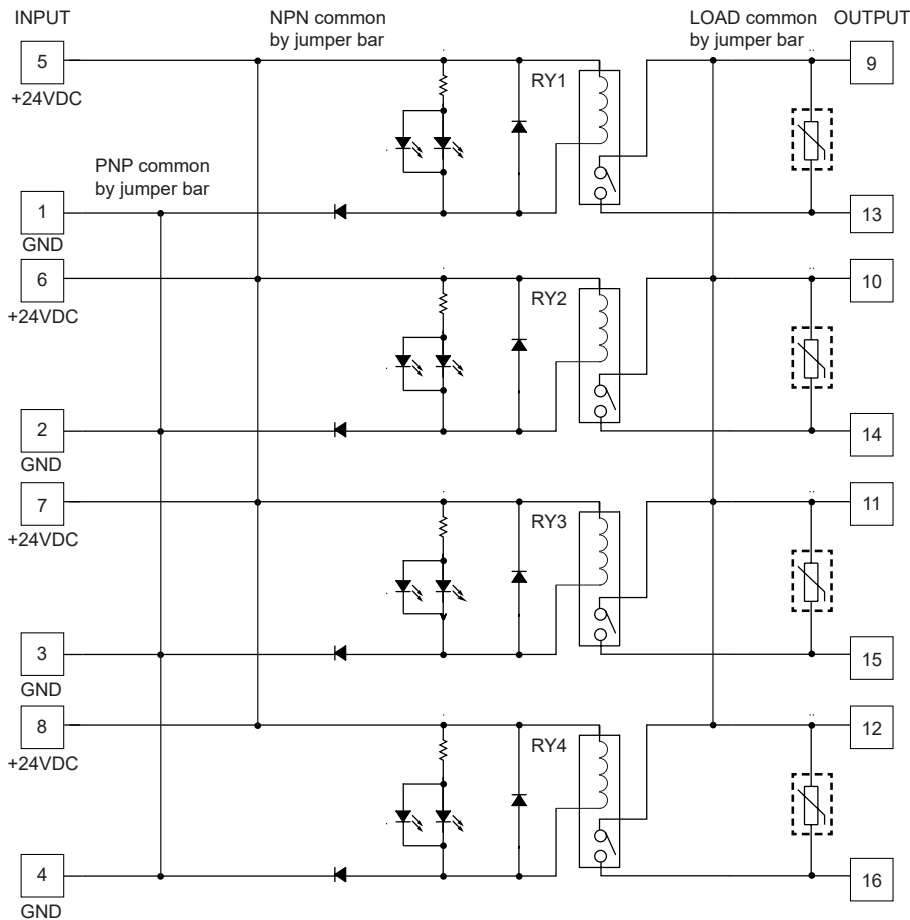
SSR

■ Connections

◎ Rated load current 5A

● ABL-L04PQ(R6)-UN(UY)

※NPN, PNP, LOAD common are operated by the inserting position of the Jumper bar.
Please refer to the '2. Using jumper bars' of '■ Replacing Relay and Using Jumper Bar'.



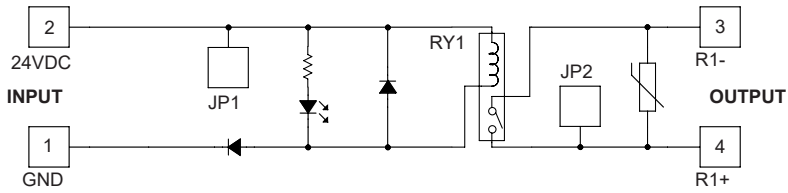
※: parts are only for ABL-L04 □-UY (varistor installed type).

ABL Series

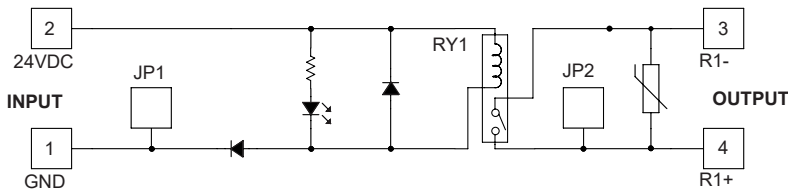
Connections

⊙ Rated load current 3A

● ABL-L01PA(TN)-NN(NY)

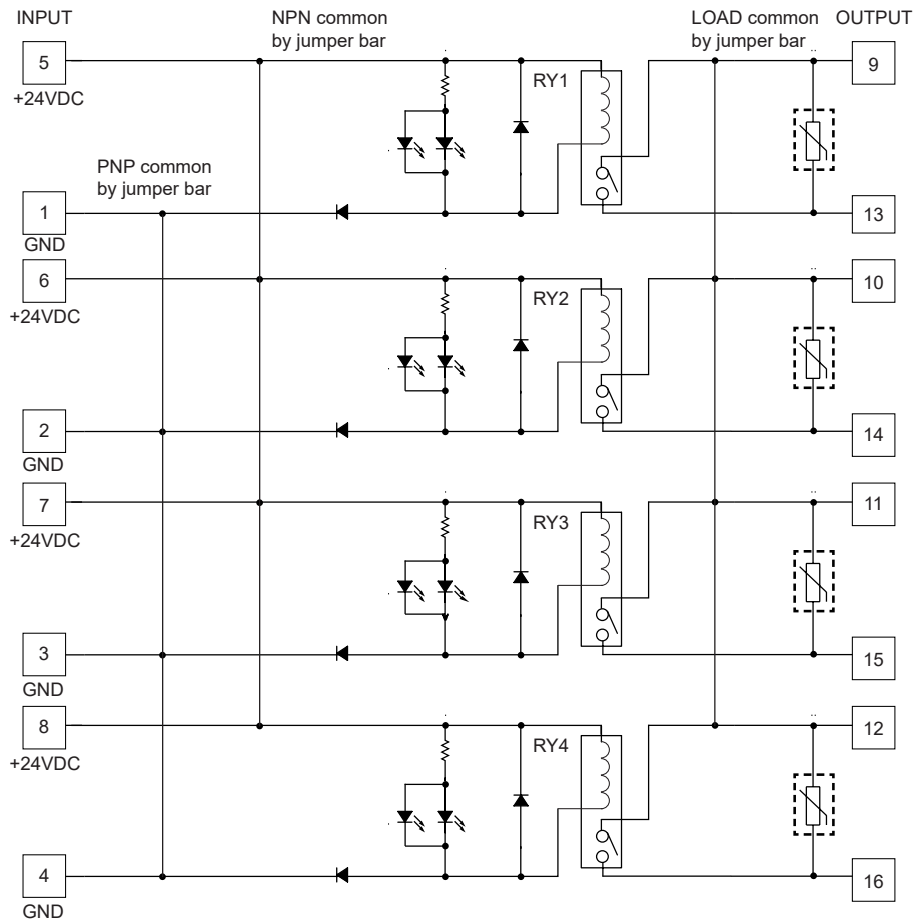


● ABL-L01PA(TN)-PN(PY)



● ABL-L04PA(TN)-UN(UY)

※NPN, PNP, LOAD common are operated by the inserting position of the Jumper bar. Please refer to the '2. Using jumper bars' of 'Replacing Relay and Using Jumper Bar'.

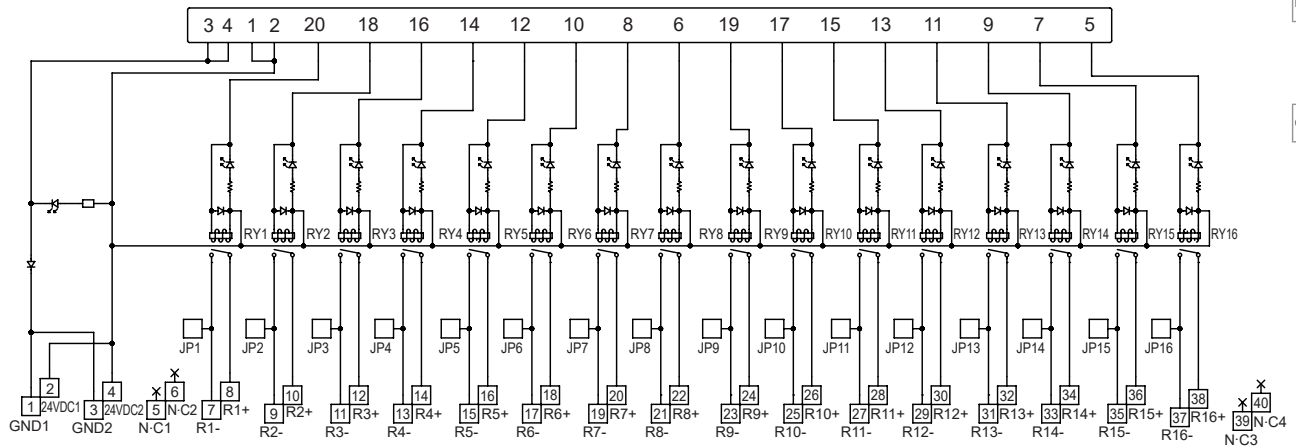


※: parts are only for ABL-L04 □-UY (varistor installed type).

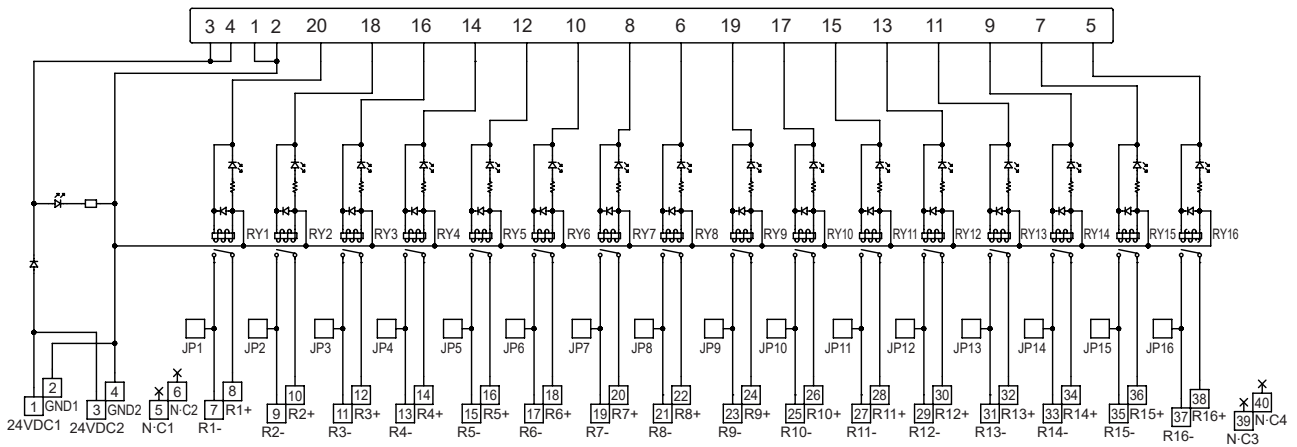
Connections

⊙ Rated load current 3A

● ABL-H16R6-NN



● ABL-H16R6-PN



I/O Terminal Blocks

Interface Terminal Blocks
Common Terminal Blocks
Sensor Connector Terminal Blocks

Relay Terminal Blocks

I/O Cables

Connector Type Cables
Open Type Cables

Others

ABS Series

ABL Series

ASL Series

Power Relay

SSR

Connecting Crimp Terminals

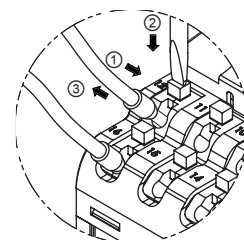
1. Connecting and removing end sleeve (ferrule terminal) crimp terminal at screwless type terminal block

● Connecting

1) Push the end sleeve (ferrule terminal) crimp terminal towards direction ① to complete the connection.

● Removing

1) Press and hold the catch above the terminal in direction ② with a flat head screwdriver.
2) Pull and remove the end sleeve (ferrule terminal) crimp terminal towards direction ③.



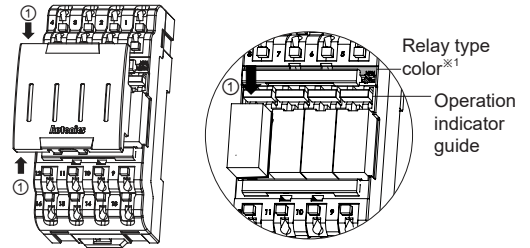
■ Replacing Relay and Using Jumper Bar

○ Rated load current 5A

● ABL-L04PQ/R6-□

1. Replacing relays

- 1) Remove the protection cover.
 - 2) Push the operation indicator guide in direction to remove the relay.
 - 3) Insert a new relay to the case.
- ※1: The color of the jumper bar insertion holes indicate the relay types of the model.
(green: MATSUSHITA (Panasonic) PQ, navy blue: OMRON G6B)
※Only insert designated relays for each model.
※Execute above directions only for replacing relays. If not, it may cause relay damage.



2. Using jumper bars

Remove the protection cover and use the jumper bars accordingly.

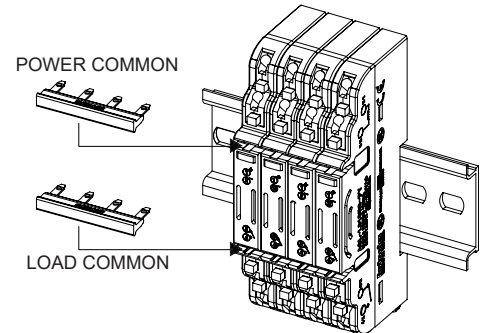
NPN (+ COM)	PNP (- COM)	LOAD COMMON
Insert the jumper bar to see NPN mark below terminals 8, 7, 6, 5.	Insert the jumper bar to see PNP mark below terminals 8, 7, 6, 5.	Insert the jumper bar above terminals 12, 11, 10, 9.

○ Rated load current 3A

● ABL-L01TN/PA-□

1. Using jumper bar

The right figure example is for 4 ABL-L01□ - □□□ units with jumper bar.
For power common, insert a jumper bar to top. For load common, insert it to bottom.
※ABL-L01□ - □□□ model is integrated relay. The unit cannot replace only relay.

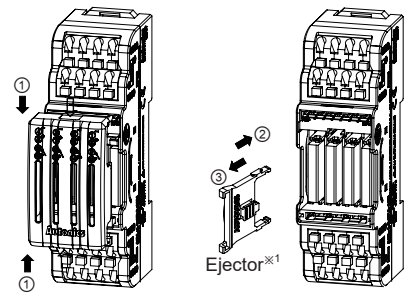
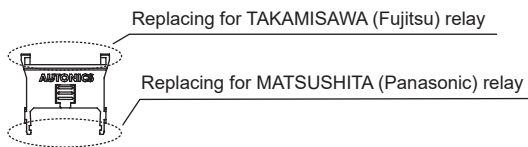


● ABL-L04PA/TN-□

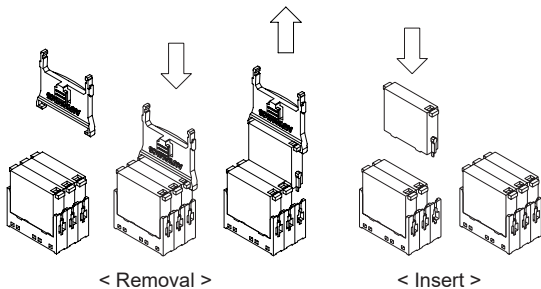
1. Replacing relays

- 1) Pull the protection cover towards direction ①.
- 2) Insert the ejector as proper side to ② direction and pull it to ③ direction to remove.
- 3) Insert a new relay to the case.

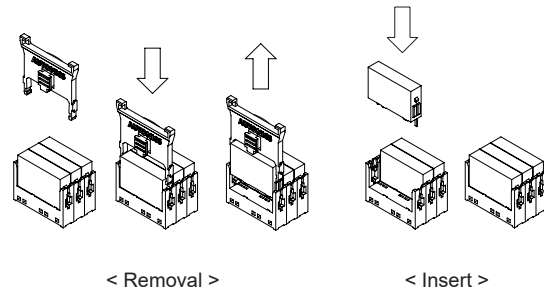
※1: Two way ejector position for relay replacement



• Removal and insert TAKAMISAWA (Fujitsu) relay



• Removal and insert MATSUSHITA (Panasonic) relay



2. Using jumper bars

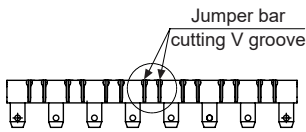
Remove the protection cover and use the jumper bars accordingly.

NPN (+ COM)	PNP (- COM)	LOAD COMMON
Insert the jumper bar to see NPN mark below terminals 8, 7, 6, 5.	Insert the jumper bar to see PNP mark below terminals 8, 7, 6, 5.	Insert the jumper bar above terminals 12, 11, 10, 9.

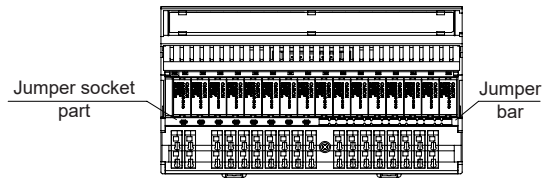
● ABL-H16R6-NN/PN

1. Using jumper bars

1) Cut the jumper bar to the user's desired length by cutting at the V dent (two) using a nipper.

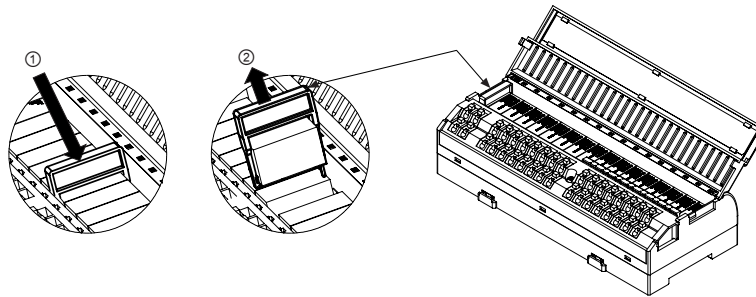


2) Insert the cut jumper bar to the desired jumper bar socket position.



2. Replacing relays

1) Insert the relay ejector at both ends of the installed relay to direction ①.
2) Pull the relay ejector to direction ② for removing the relay.



I/O Terminal Blocks

Interface Terminal Blocks

Common Terminal Blocks

Sensor Connector Terminal Blocks

Relay Terminal Blocks

I/O Cables

Connector Type Cables

Open Type Cables

Others

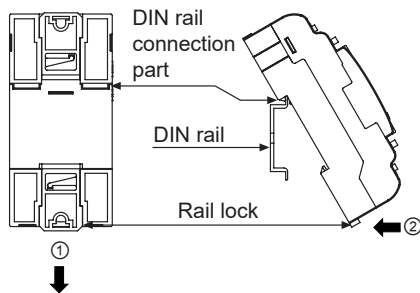
■ Installation

※ Each model appearance is different by no. of relay points.

1. Mounting and removal at DIN rail

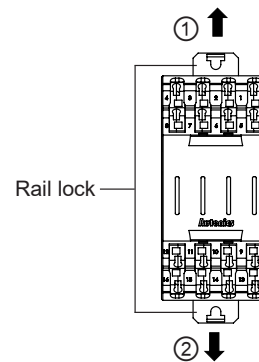
● Mounting

1) Pull the rail lock towards direction ①.
2) Attach the DIN rail connection part onto the DIN rail.
3) Push the unit towards direction ②, then push the rail lock in to lock toward the unit.



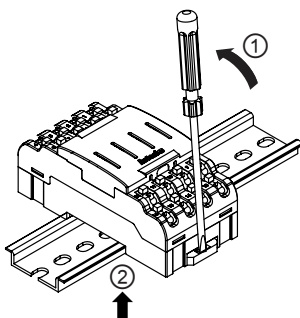
2. Mounting with screws (only for ABL-L04□-□□)

1) The unit can be mounted on panels using the rear rail locks.
2) Pull the rail locks towards directions ① and ②.
3) M4×10mm spring washer screws are recommended for installation. When using flat washers, use Ø9mm diameter washers. The tightening torque should be between 1.0 and 1.5N·m.



● Removal

1) Insert a screwdriver into the rail lock hole and push it towards direction ①.
2) Remove the unit by pulling the unit towards direction ②.



ABS Series

ABL Series

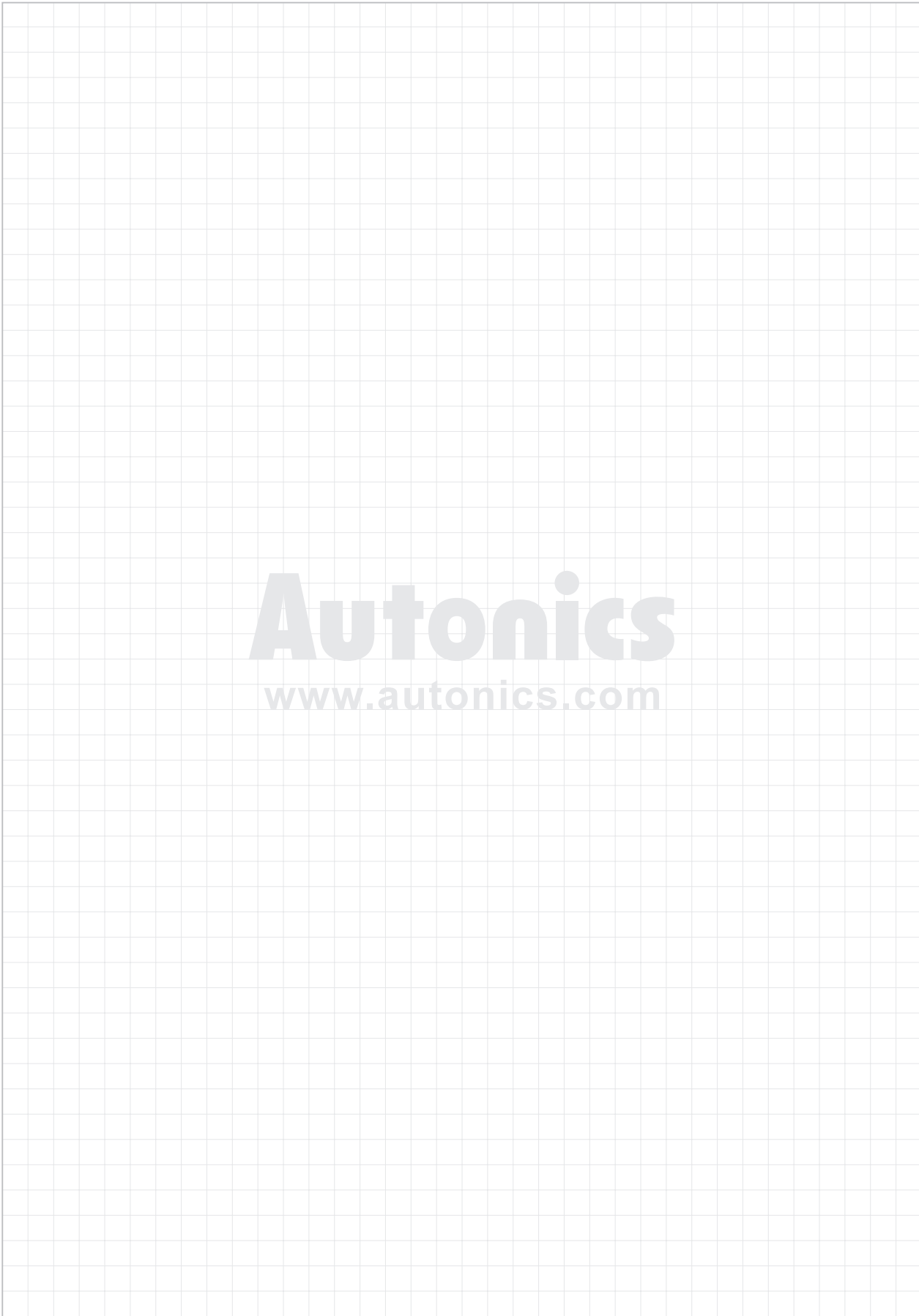
ASL Series

Power Relay

SSR

■ Cautions during Use

1. Follow instructions in 'Cautions during Use'. Otherwise, it may cause unexpected accidents.
2. Check the polarity of power or COMMON before connecting PLC or other controllers.
3. Do not touch the unit immediately after the load power is supplied or cut.
It may cause burn by high temperature.
4. 24VDC power supply should be insulated and limited voltage/current or Class 2, SELV power supply device.
5. Wire as short as possible and keep away from high voltage lines or power lines, to prevent surge and inductive noise.
Do not use near the equipment which generates strong magnetic force or high frequency noise (transceiver, etc.).
In case installing the product near the equipment which generates strong surge (motor, welding machine, etc.), use diode or varistor to remove surge.
6. This unit may be used in the following environments.
 - ① Indoors(in the environment condition rated in 'Specifications')
 - ② Altitude max. 2,000m
 - ③ Pollution degree 2
 - ④ Installation category III



I/O Terminal Blocks

- Interface Terminal Blocks
- Common Terminal Blocks
- Sensor Connector Terminal Blocks
- Relay Terminal Blocks**

I/O Cables

- Connector Type Cables
- Open Type Cables

Others

ABS Series

ABL Series

ASL Series

Power Relay

SSR

Autonics
www.autonics.com